DOH-Construction Review Services

The Square Knot

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A publication to join in a partnership with our customers for world class healthcare.

Washington State Department of Health
CONSTRUCTION REVIEW SERVICES

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Questions??

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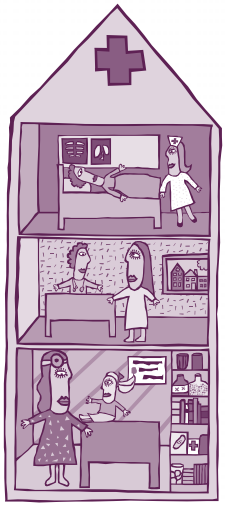
Building Green in Licensed Care Occupancies

All What does this mean when "building green" is applied to long-term health care facilities such as boarding homes, nursing homes, and residential treatment facilities? More and more in today's design it usually refers to sustainable building design. Many of us first became aware of "green" or sustainable building design with the new or increased emphasis on:

- Efficient use of water;
- Energy conservation of all types of fuels;
- Heat recovery systems
- Promotion of clean air environments;
- Selective specification of materials to assist in the wise use of resources; and
- Attention to indoor environmental quality.



Sustainable design has reaped other benefits. Facilities with a better handle on their utility costs improve the accuracy of their budgeting. Also, for those facilities wishing to expand or renovate, this knowledge makes them a better candidate for funding because some of the guess-work can be replaced with accurate information.

Sustainable design may extend beyond use of utilities and selection of building materials. For construction involving new buildings or additions it can also include the site itself. This may mean leaving more existing trees and native vegetation. It may involve enhancing the site with native plants that require less water, or the installation of a 'gray water' irrigation system.

Sustainable design may also be beneficial for marketing. When a facility can demonstrate how they are working toward protecting the environment through better use of resources, it may receive favorable responses from clients, potential clients, and neighbors.

When "building green", the facility and designers should also consider those using the facility. Folks that are restricted to the indoors, such as in a hospital or nursing home, fare better when they have views of "green" landscaping. This is important for both the patient/resident and the staff. Views of nature help those confined indoors keep themselves oriented to the time of day, the time of year, and the weather conditions. Views to exterior landscaping tend to help us relax and have a more positive mental attitude.

"Building green" design may also consider staffing patterns and staff efficiency. How is the facility arranged? Does staff need to make extended trips to a variety of locations to be able to complete their assignments? Or, are spaces arranged to allow short trips, giving staff more time to interact with the clients. Sometimes this means the decentralization of spaces even though a central location might be the more economic use of floor space.

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Also, how does the design allow staff to flow? Is it in constant conflict with each other or others, or does it allow a flow without cross trafficking and/or backtracking?

Just like sustainable design, "building green" enhances conservative use of utilities and materials. Sustainable design for use by staff will benefit the facility by allowing the staff to function efficiently in an environment that is pleasing to the senses and considerate of staff time and energy.

-Richard Swanson

Jillian Anthony

All As of March 1, 2004, Jillian Anthony is no longer with Construction Review Services (CRS). She took a promotional opportunity with another program at the Department of Health and, although CRS lost a valuable employee, the Department did not lose her entirely. Jill's contribution and work ethic will be missed and difficult to replace. We wish her well. **-Chad E. Beebe, AIA**

Nursing Commission has openings for new members

All The Washington State Department of Health is accepting applications from registered nurses, licensed practical nurses and advanced registered nurse practitioners for the Nursing Care Quality Assurance Commission. Members are appointed by the governor to serve four-year terms. The responsibilities of commission members include policy making, writing advisory opinions and rules, participating in disciplinary hearings and charging panels, reviewing investigations and providing technical assistance to students and licensees.

The governor's office is seeking diversity in commission members and recognizes the value diversity brings in understanding and serving the people of Washington state.

Applications are available on the Health Professions Quality Assurance Web site (https://fortress.wa.gov/doh/hpqa1/hpqamain.htm#mychoice). You may also contact Mary Dale by writing P.O. Box 47860, Olympia, WA 98504, calling 360-236-4985 or e-mailing mailto:mary.dale@doh.wa.gov.

2004 WSSHE Semi-Annual Symposium

"BLOWIN' IN THE WIND"

Topic: Ventilation System Design and Operation for Healthcare Facilities

Date: April 29 & 30, 2004

Location: Campbell's Resort - Chelan, WA

Register at: http://www.wsshe.org/Conferences.html

Key to Topic Tags

The following is a key to topic tags you will see throughout future Square Knots. These tags will help you scan the newsletter more quickly to find those articles relevant to your type of facility.

AC Acute Care (Hospitals and their facilities licensed by DOH)

BH Boarding Homes (Licensed by DSHS)

NH Nursing Homes (Licensed by DSHS)

Other Alcoholism Treatment Facilities, State Institutions, Psych & Alcoholism Hospitals, Birthing Centers, etc.

All This tag indicates an article that is relevant to everyone.

CMS Articles about actions or requirements from The Centers for Medicaid and Medicare Services.

General Design of Outpatient Facilities

AC There is often confusion regarding the application of Chapter 246-320 WAC to outpatient facilities. The purpose of Chapter 246-320 WAC is to provide regulatory guidelines for all facilities seeking hospital licensure. This chapter is divided into distinct sections that apply to specific aspects of facility and practice design:

- Sections 001 – 405 describe the basic requirements for care delivery systems and are applicable to all facilities or portions of facilities that seek hospital licensure.
- Section 525 describes general physical design requirements that apply specifically to inpatient areas or areas whose functions require inpatient standards.
- Section 535 describes the various types of components which may be used with each type of service provided (e.g., soiled utility, housekeeping, etc.).
- Sections 545-805 describe service types and the specific requirements for each (e.g., surgery, imaging, etc.) These sections refer to specific portions of Section 535 for the components required for that service. (e.g., soiled utility, housekeeping, etc.)
- Section 815 deals with outpatient facilities and the specific needs of those facilities.

Section 815 specifically references portions of Section 525 that relate to plumbing, finishes, and bathroom/toilet design. Unlike the other service types, outpatient facilities are only required to meet all of the requirements of Section 525 when patients are rendered non-ambulatory or when certain services are being performed. These services, as listed in Section 815(6), include: surgery, PACUs, interventional services, airborne precaution rooms, and central sterilizing.

Like the other services types, Section 815 also identifies which components of Section 535 are needed. When an outpatient facility provides a specific service that is covered by other sections of the regulations, the outpatient facility shall meet those specific requirements. However they are not required to meet all of the General Design

Therefore, there are a few essential questions to ask when dealing with an outpatient facility:

1. Will the service (s) performed or the products purchased fall under the hospital's license?
2. Will the patients be non-ambulatory?
3. What are the implications of the service type (s) proposed?

For example: an outpatient facility that is under a hospital license, that provides outpatient imaging services, and does not render a patient non-ambulatory is required to meet:

- Sections 001-405 (note: Section 405 references the portions of Section 525);
- The imaging service requirements as found in Section 785;
- The component requirements in Section 535 for the individual rooms required by Section 815, Section 785, and those portions of 525 required in 815(1) or as referenced in 405.

The regulations are intended to provide the minimum amenities required to perform the services provided. It is necessary to submit the functional program to the Department during the planning phases so that we can assess the services to be provided and determine which portions of the regulations must be met to provide such services.

-John Williams

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2000 Life Safety Code®, Part IV Emergency Lighting and Emergency Forces Notification

When a fire occurs in a building, the degree of visibility in corridors, stairs, and passageways might mean the difference between an orderly evacuation or total chaos, and possibly the difference between life and death. A brief glance at the history of fires reveals several multiple death related fires in which the failure of emergency lighting was a major factor in the casualties incurred. In these fires, it was reported that the lack of emergency lighting, system failure, and the lack of illuminated directional exit signs contributed to significant loss of life.

The code requires that there be at least 1-foot candle (10 lux) of illumination at floor level in all three elements of a means of egress. The exit access, the exit, and the exit discharge include designated stairs, aisles, corridors, ramps, escalators, walkways, and passageways leading to an exit. All light fixtures on normal or emergency power must be arranged to ensure continuity of egress lighting. This arrangement can be accomplished by means such as the use of duplicate light bulbs in fixtures, overlapping light patterns, or overlapping dual circuits.

There are two acceptable methods of supplying emergency power to provide exit lighting that will meet the requirements under the 2000 Life Safety Code®:

1. Storage batteries that are used as an emergency power source are permitted to be used to supply the required continuous, emergency power through a wiring system. For this arrangement, two separate power systems, with independent wiring are employed from the normal power source wiring. The storage batteries providing the emergency power source must have sufficient capacity, and emergency lighting must be designed so that adequate light is available for not less than 1-1/2 hours if the normal power system fails. Battery operated emergency lighting systems shall use only reliable types of rechargeable batteries, provide suitable facilities for maintaining them in a properly charged condition, and be periodically maintained. Rechargeable batteries shall be approved for their intended use and shall comply with NFPA 70. Automotive-type batteries are not acceptable.
2. An independent emergency power source, connected to an automatic transfer switch is often used. The two sources of power, normal and emergency, are connected to a transfer switch, which automatically switches the emergency lighting load from the normal source to the emergency source upon loss of normal power. When normal power is restored, the emergency lighting load is transferred back to the normal source.

The most widely used emergency power source is an on-site generator. Upon loss of normal power, a signal is sent to start the generator. When the generator is running at rated speed and its output voltage is correct, the emergency load is connected to this source by operation of the automatic transfer switch. This transfer must take place within 10 seconds or less. However, the emergency lighting system shall be either continuously in operation or shall be capable of repeated automatic operation without manual intervention and without delay in service. Emergency lighting shall be provided during the changeover of power source. Emergency generators providing power to emergency lighting systems shall be installed, tested, and maintained in accordance with NFPA 110.

A periodic functional test shall be conducted on every required emergency lighting system at 30-day intervals for not less than 30 seconds. An annual test shall be conducted on every required battery-powered emergency lighting system for not less than 1-1/2 hours. Equipment shall be fully operational for the duration of the test. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

For those facilities using the storage battery system, but whose system does not meet the 1-1/2 hour requirement, CMS allows facilities to phase in this requirement over a 3-year period. This phasing period coincides with the normal replacement cycle of batteries used in emergency lighting systems. CMS estimated the cost for installing this equipment, will be $600 per light. Approximately 790 existing facilities nationwide do not have emergency lighting adequate to provide lighting for the required 1-1/2 hours.

-Douglas E. Taylor, C.B.O.

Toys, Animals, and Infection Control Interventions

All "The cool muzzle of a dog, affectionately rubbing against your leg, or the gentle purr of a sleeping kitten conjures up feelings of happiness and relaxation. Several patient care advocacy groups have encouraged the use of animal therapy for children, the elderly, and those in extended care facilities. Research has shown that interaction with animals can reduce feelings of anxiety and isolation, and combat depression and loneliness. There are also reports of lowered blood pressures and decreased cardiac problems after animal therapy. Although benefits exist, there are also possible infection risks for the patient that cannot be ignored.

Zoonotic diseases, allergies, and bites are all problems associated with animal contact. However, if appropriately planned, the potential risks can be significantly decreased. Animals such as reptiles, rodents, ferrets, skunks, and raccoons are not good choices because they often carry diseases and exhibit behavioral issues such as biting and scratching. Dogs, cats, and rabbits are most often used because a physical exam is easier with these animals. Animals should be clean, well-groomed, and healthy. They should also be appropriately vaccinated. Aggressive animals should be excluded. A special visiting area should be arranged for the animals, and they should always be supervised and never left unattended.

The health of those interacting with the animals must also be taken into consideration. People being treated for cancer, organ transplant recipients and the elderly who may have decreased immune systems may be more likely to get sick from such interactions and should take extra precautions. Visits can be arranged in such a manner that those at risk do not actually touch the animals. Rough play should be avoided to prevent scratching and biting. If there is physical contact with the animal, hands should be washed thoroughly to prevent spread of germs. Fish are a good alternate because there is no actual contact with the fish, no associated allergies and aquariums promote a soothing environment.

In addition to animals, toys can also be fun, therapeutic and provide a diversion for the patient. Generally, people do not recognize the infection risks associated with pets or toys. Infection control practitioners (ICPs) should provide policies and/or guidelines and education so that usage and benefits can be maintained in a safe manner. ICPs can provide alternatives to staff requests so that the intent can be accomplished and the risks are minimized.

Toys can be a reservoir for potentially pathogenic microorganisms. There are outbreaks described in the literature associated with contaminated toys. Two such outbreaks involved Pseudomonas and rotaviris. Ways to minimize these infection risks include:

- Provide toys that are washable.
- Do not share stuffed animals and other toys that cannot be cleaned and disinfected.
- Patients with suspected or confirmed infectious diseases should not be in playrooms.
- Do no use water-retaining bath toys with immunocompromised patients.
- Establish a schedule and assign responsibility for cleaning and disinfecting the toys. Toys in playrooms or general areas should be cleaned minimally when visibly soiled and once a week. Toys should be cleaned sooner if a child has mouthed the toy. Toys stored in the patient's room should be cleaned minimally when visibly soiled and always between patients.

Washing and disinfecting options include the following:

1. A dishwasher if the wash cycle can reach $82^0C/180^0F$.
2. Wash items with soap and water first then wipe or soak in a bleach solution of $\frac{1}{4}$ cup bleach to one gallon of water (1:64 bleach solution) for one minute. Allow toys to air dry prior to storing. Bleach solution 1:64 is also available in pre-moistened wipes. Wipe once to clean and twice to disinfect. 70% alcohol is an alternate to bleach for disinfecting when there are metal parts.

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The Square Knot

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"Public Health - Always Working For a Safer and Healthier Washington."

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DID YOU KNOW!

Washington State has the highest incident rate of female breast cancer; New Mexico has the lowest.

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Whether it is washing the toys or washing the dog, basic infection control procedures can prevent a seemingly simple event from becoming an infection problem. ICPs can provide guidance on the best course of action when planning therapeutic events with pets and toys."

By Barbara Roman, BS, MT (ASCP), CIC and Jodi Vinsel, RN, BSN, CIC Department of Epidemiology, Children's Hospital, Columbus, Ohio

The next issue ...of the Square Knot is July 2004

Look for these articles in the next issue of the Square Knot:

- Fire Alarm Systems: Audible and Visible Alarms
- Life Safety Code 2000-Part V
- New Residential Care Rules

If you would like to submit an article for the Square Knot, please email it to fslcrs@doh.wa.gov. Articles should be between 350-450 words. The Department reserves the right to edit any published articles. Views expressed in the Mailbag do not constitute endorsement from the Department.

Deadline for articles is May 1, 2004.
Editor: John R. Templar, RS

Construction Review Services Mission

"Construction Review Services protects and improves the health and safety of people in Washington State by providing professional consultation and review for the design and construction of licensed or certified care facilities for our customers."